
FY 2005 Waste Tire Management Program Report

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Indiana Department of Environmental Management
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Introduction

The Rubber Manufacturers Association estimates that each year, one waste tire is generated for every American. Using this information, Indiana generates about 6 million waste tires per year, with about 6.5 million additional whole tires, shreds and tire fire debris inventoried in stockpiles across the state. Large accumulations of whole tires pose a serious public health threat by providing breeding grounds for mosquitoes that spread disease and a fire threat which could damage the environment, including air pollution and runoff to nearby water resources.

In 1991, as directed by the state legislature, the Indiana Department of Environmental Management (IDEM) established a Waste Tire Task Force to address the problem of illegal waste tire stockpiles and to investigate reuse options for this potentially valuable resource. Recommendations from the Waste Tire Task Force led to the creation of the Waste Tire Management Program. To support the program, a Waste Tire Management Fund was created from fees collected at the point of sale of new replacement tires, those mounted on all new vehicles sold, and fees from IDEM registration of waste tire handling facilities.

Since the creation of the program, Indiana has been successful in eliminating many large abandoned tire piles and providing financial assistance for market research and development. However, with the volume of waste tire material generated annually and the difficulty of finding enough end users for tire derived products, these current efforts may not be enough.

This annual report provides an update to the 2003 and 2004 Waste Tire Management Program Reports for activities during State Fiscal Year 2005 (July 1, 2004 – June 30, 2005). It includes information on the status of the fund, IDEM tire management programs supported by the fund, and future challenges Indiana faces with waste tire management.

The Waste Tire Management Fund

The Waste Tire Management Fund was established by IC 13-20-13-8 to support Indiana's Waste Tire Management Program. The majority of funding is generated from a 25 cent per tire fee collected on the sale of new motor vehicle tires (IC 13-20-13-7). The fee is collected by vehicle dealers and replacement tire retailers and is remitted to the state. The Waste Tire Management Fund may be used for the remediation and removal of improperly disposed waste tires, financial assistance to reduce waste tire generation and to promote the use of processed tire products. For background information on the fund and other Task Force recommendations, see the 2003 Waste Tire report online at: www.IN.gov/idem/ctap/wastetire/index.html.

In 2004, IDEM and the Department of Commerce, now the Office of Energy and Defense Development (OED), created a Memorandum of Understanding (MOU) in an effort to coordinate use of the fund to ensure that the purposes of the fund are accomplished.

Fee revenue and funds allocated from the waste tire fund for tire management, cleanups and market development incentives are as follows for fiscal years 2004 and 2005:

<u>Fiscal Year</u>	<u>Fee Revenue*</u>	<u>OED Grants and Loans</u>	<u>IDEM Contracts for Cleanups</u>	<u>IDEM Tire Grants</u>
2004 (7/1/03- 6/30/04)	\$ 1,612,000	\$ 0	\$ 910,216	\$ 276,240
2005 (7/1/04 - 6/30/05)	\$ 1,860,000	\$ 0	\$ 581,379	\$ 299,920

(*Annual revenue collections reported in thousands on the Department of Revenue Web site at: www.in.gov/dor/reference/report/05pdf/descriptions.pdf. Before OED and IDEM negotiated the MOU, some of the funding for grant-awarded projects utilized Solid Waste Management Fund dollars.)

The following sections of this report detail the management programs supported by this fund, including monetary incentives and public education to promote the environmentally sound use of tire derived products, and the expenditures involved with compliance regulations and remediation projects.

Waste Tire Management Programs

The IDEM Office of Land Quality (OLQ) is responsible for regulating waste tire management operations across the state. Indiana Administrative Code 329 IAC 15 provides the framework for monitoring the 85 transporters, 24 processors and 3 storage facilities maintaining waste tire program certificates of registration in FY 2005.

Copies of the OLQ registration materials for transporters, processors, and storage facilities, as well as annual reporting and manifest forms may be found online at: www.IN.gov/idem/land/permits/forms/index.html.

Waste Tire Transporters

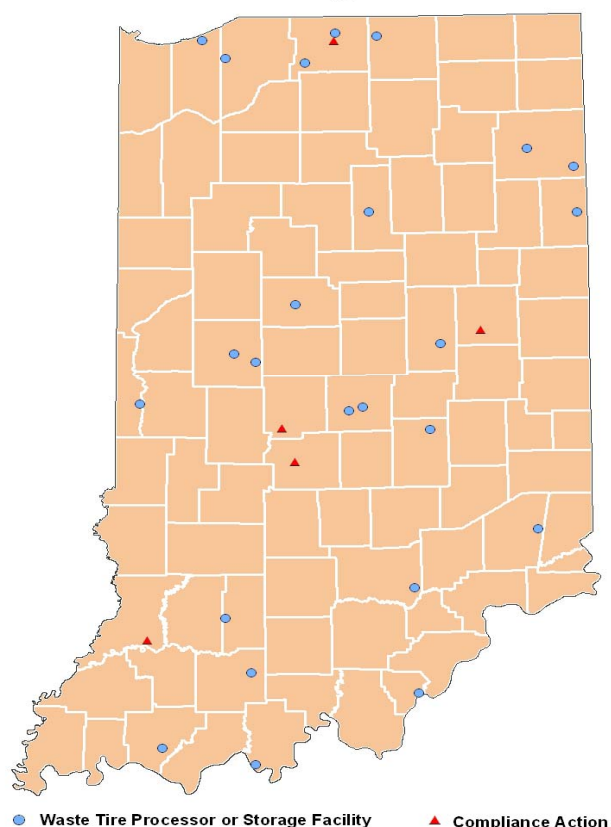
Waste tire transporters are required to pay a \$25 application fee for a five year registration plus an annual \$25 operating fee. 329 IAC 15-4 requires transporters to annually report the number of waste tires handled and to maintain financial assurance in the amount of \$10,000. A list of transporters currently registered with IDEM may be found online at:

www.IN.gov/idem/land/sw/permitting/reg_wst_tire_trans.html

Waste Tire Processors and Storage Sites

The application fee for a five year waste tire processing registration is \$200. There is no annual fee for waste tire processing facilities. 329 IAC 15-3 calls for annual reporting of the number of tires handled, maintaining records of tire sources, and preparation of a facility contingency plan for dealing with emergencies. Processing operations are required to drain water from tires on the day they are received and process them within seven days to prevent water collection and the threat of mosquitoes spreading disease. Three processing operations have also registered their facilities as storage sites which require an additional \$500 application fee and \$500 annual operating fee plus posting a site closure bond. This financial assurance is based on the cost to cleanup the volume of material stored on the site above the 1,000 outside or 2,000 inside operating allowance.

Waste Tire Processors and Storage Facilities



A list of waste tire processors and storage sites currently registered may be found at:
www.IN.gov/idem/land/sw/permitting/waste_tire_processors_and_storage.html

The IDEM Office of Enforcement (OE) has compliance actions against the following waste tire facilities:

- 1) CR3 of Indiana, a/k/a Dillon Environmental Resources, LLC, Muncie, Delaware County, for a large tire fire in August 2003, court action is still pending.
- 2) Bailey's Recycling Group, South Bend, St. Joseph County. This operation is currently under a court order to remediate the site.
- 3) Stewart Recycling Inc., Monroe City, Knox County. The operation continues to work toward site remediation directed by a court order.
- 4) JJ's Tire Recycling, Martinsville, Morgan County. This closed operation is under an enforcement action for failing to remove abandoned tires from the site.
- 5) City Tire & Salvage, Clayton, Hendricks County, is also closed and faces an enforcement action for not removing abandoned tires from the facility property.

In 2005, OLQ committed \$581,379 for tire pile removal contracts. These non registered sites include Kingsbury Industrial Park in LaPorte County; Thomas Erwin property in Jennings County, and the Hoggatt Trucking tire storage trailer in Dubois County. OLQ estimates that since the creation of the waste tire management program, approximately 7 million waste tires have been removed from stockpiles with about 5 million whole tires, shreds and fire debris remaining at current or previously registered facilities. Over 1.5 million more have been inventoried at 35 tire dump sites across the state.

Major sources of waste tires are subject to OLQ compliance inspections for proper waste tire management practices. These include vehicle maintenance facilities, transportation companies, new and used tire dealers, tire retreading plants, and auto salvage operations. Indiana has an estimated 1,000 tire retailers, according to the Indiana/Illinois Tire Dealers Association. Currently 250 retailers are members of the association, which supports sound environmental management practices. Although waste tire generators or sources are not required to register with OLQ, IC 13-20-14 sets out waste tire management requirements for specific operations. New tire retailers are to accept from the consumer the same number of waste tires replaced by new tires purchased. A handling charge is routinely collected by the dealer for this service, in addition to the 25 cent new tire fee. All sources of waste tires are responsible for delivery of their tires to an approved processing or disposal facility. This is the main service provided by registered waste tire transporters. Additionally, all major sources of waste tires are required to maintain an annual file to document how their waste tires are managed, such as copies of their waste tire manifests provided by a registered waste tire transporter.

The IDEM Office of Pollution Prevention and Technical Assistance (OPPTA) distributes consumer education information to encourage proper tire maintenance and longer tire life. IDEM also promotes tire reuse and recycling awareness together with the Rubber Manufacturers and Indiana Tire Dealers Associations. Tire reuse demonstration grants are offered by OPPTA to eligible businesses, schools, not-for-profits, and local units of government for projects in the following categories:

- Civil Engineering Field Reuse: utilizing processed waste tire shreds or chips as part of an engineered design following the ASTM Standard D 6270 -98 for use of scrap tires in civil engineering applications including road embankments or bridge abutment back fill.
- Recreational Field Reuse: demonstrating ground tire rubber products use for improved performance of athletic fields, sports tracks and community hiking/biking trails.
- Research and Development: to explore the use of waste tire material in a high-value added product plus identifying end users or regional markets for the product.
- Education: for consumers and tire retailers to promote waste reduction and an understanding of opportunities for tire recycling.

Listed below are the tire grant demonstration projects approved in FY 2005.

- Purdue University: civil engineering research on design and construction of road base utilizing processed tire materials to reduce freeze and thaw damage.
- Vigo County Highway Department: will evaluate a newly developed polymer and tire rubber modified asphalt pavement on road overlay projects.

- City of Lawrence: will test a thin application of the new polymer and tire rubber modified asphalt paving on their community parks connecting trail system.
- Indianapolis Parks and Recreation Department: will evaluate the performance of the new polymer and tire rubber modified asphalt on two outdoor courts.
- Three school corporations; Beech Grove, Duneland, and Noblesville, were approved for rubber modified asphalt paving projects on athletic courts and parking area resurfacing.

Providing incentives through grant funds for demonstration projects has resulted in direct benefits to universities, schools, local parks and highway departments, while offering an example of the new product or process for similar agencies to consider for future projects. The response has been very positive from those completing paving projects with the polymer-rubber modified asphalt, including the asphalt plant operators and paving contractors. The reuse program approach is guided by a recommendation of the Tire Task Force to search out projects that can demonstrate a property or value of tire materials that will compete with materials currently in use.

Markets for Processed Tires

In 2004, U.S. EPA Region 5 in a cooperative effort with several state waste tire management programs compiled a summary of waste tire piles in the Great Lakes region and mapped the locations and volumes of about 500 sites. A goal was established under U.S. EPA's Resource Conservation Challenge to clean up 55 percent of these stockpiled tires by 2008. This renewed regional interest in cleaning up waste tire stockpiles may offer the chance to share reuse ideas among the states. It may also be possible that this large volume of raw material will entice a tire derived product company to establish a processing facility in the region. For more information, visit the EPA Region 5 website at: www.epa.gov/reg5rcra/wptdiv/solidwaste/tires/GreatLakesTires.pdf.

The federal government has information on waste tire product stewardship, including the latest product development, resources, and international, federal, regional, local, and industry initiatives. For more information, visit the U.S. EPA's Web site at: www.epa.gov/epr/products/tindust.html.

National markets reflect end use for processed waste tires in three primary areas:

- Tire derived fuel is the largest end use consuming 40 percent.
- Civil engineering applications 15 percent.
- Ground rubber 12 percent.

Current End Uses for Waste Tires in Indiana include:

- Landfill alternative daily cover.
- Ground rubber incorporated in artificial athletic field surfaces or as natural turf soil amendment.
- Civil engineering applications as tire chip drainage aggregate and light weight fill.
- Tire derived fuel.

State waste tire programs across the U.S. varies greatly, the majority (34) collect a tire program fee. Two programs collect a per tire fee as low as 25 cents (Indiana and Kansas); others collect a fee as high as \$2.50 per tire. Many states differentiate between car tires and truck tires. For example, Arkansas charges \$2 per passenger tire, but \$4 per truck tire. Five states have an alternate tire fee tied in with vehicle registration and/or vehicle title, with West Virginia charging the highest fee -- \$5 for titles. Indiana's neighboring states charge the following: Michigan -- \$1.50 on vehicle titles; Ohio -- \$1 per tire paid at wholesale level; Kentucky -- \$1 per tire; and Illinois -- \$2.50 per tire.

Challenges for the Future

IDEM has established multiple goals to address waste tire management problems in Indiana. Those goals are to promote demand for the most valuable tire products, increase compliance and enforcement efforts, continue to clean up illegal tire piles, and provide proactive compliance outreach to the waste tire industry.

Continuing Focus on Waste Tires

- IDEM will continue to evaluate its existing approaches, authorities, and efforts to properly manage waste tires in Indiana for necessary changes.
- IDEM will continue to work with OED and local governments to identify and encourage the purchase of tire derived products
- IDEM will continue to work with the Indiana Department of Transportation (INDOT) to promote additional testing for civil engineering applications and establishment of standards supporting the use of tire materials in local road projects. INDOT also will work on special provisions allowing the use of tire chips in other appropriate applications, such as in lightweight fill in embankments
- IDEM will continue working with the State Department of Health (ISDH) and county health departments to inventory new tire pile locations and encourage greater use of tire chips in on-site waste water disposal systems.

Working Closely with Business and the Public Sector

- IDEM will continue to work with businesses to encourage the development of viable end markets for waste tires. The state will commit to explore beneficial reuse opportunities that utilize the maximum amount of Indiana tires.
- IDEM and OED will continue to work with prospective Indiana companies and institutions to explore opportunities to utilize waste tires in an environmentally sound manner to recover resources or energy.
- IDEM will continue outreach efforts to waste tire processors, transporters, and storage site operators to educate them on compliance issues and best management practices.
- IDEM will work to offer research grants to Indiana colleges and universities to test, develop, and offer guidance on civil engineering applications of tire material to local and state departments for construction and maintenance of our roadways.
- IDEM will continue to develop and promote tire management consumer awareness materials for display at retail tire business locations and tire dealer conferences.

Conclusion

The waste tire management system in Indiana can benefit from continued investment in and development of research and broader-based market development grants, as well as support for cleanups and enforcement authority. Together with other state agencies, lawmakers, industry, and the public, the Indiana Department of Environmental Management will work to reduce the number of illegal tire stockpiles to protect our citizens and work toward increased use of Indiana tire derived products.